AGS Upgrade

1. increase distance from target (15 cm)
   - detailed acceptance studies
   - new rate estimates
   reduce rate / strip by factor 2
   overall 30% acceptance loss

2. plan up to 3 detectors per 90^0 port
   - design of the Si mounts
   - new design of the flange

3. cooling of Si detectors
   - mounts for the Peltier coolers
   - testing of the coolers
   - water cooling of the flanges

4. work again on reduction / suppression of induced pulses
   - RF shilding meshes
   - copper plate in recoil chamber
   - isolation of flange from beam pipe

5. redesign of FE boards
   - new layout (12 ch. / board)
   - 10 x higher gain with 3rd stage
   - improved grounding

6. shielding boxes

7. computer controlled Power Supply system and Slow Control

8. new shaper board
   transformer / switcher / attenuator / shaper on same board, including “spy” output

9. new WFD algorithm
   - suppression of induced / prompt tails
   - multi hit capabilities

10. faster DAQ
   - start with an USB 2.0 Camac controller
   - new WFD design with PCI bus

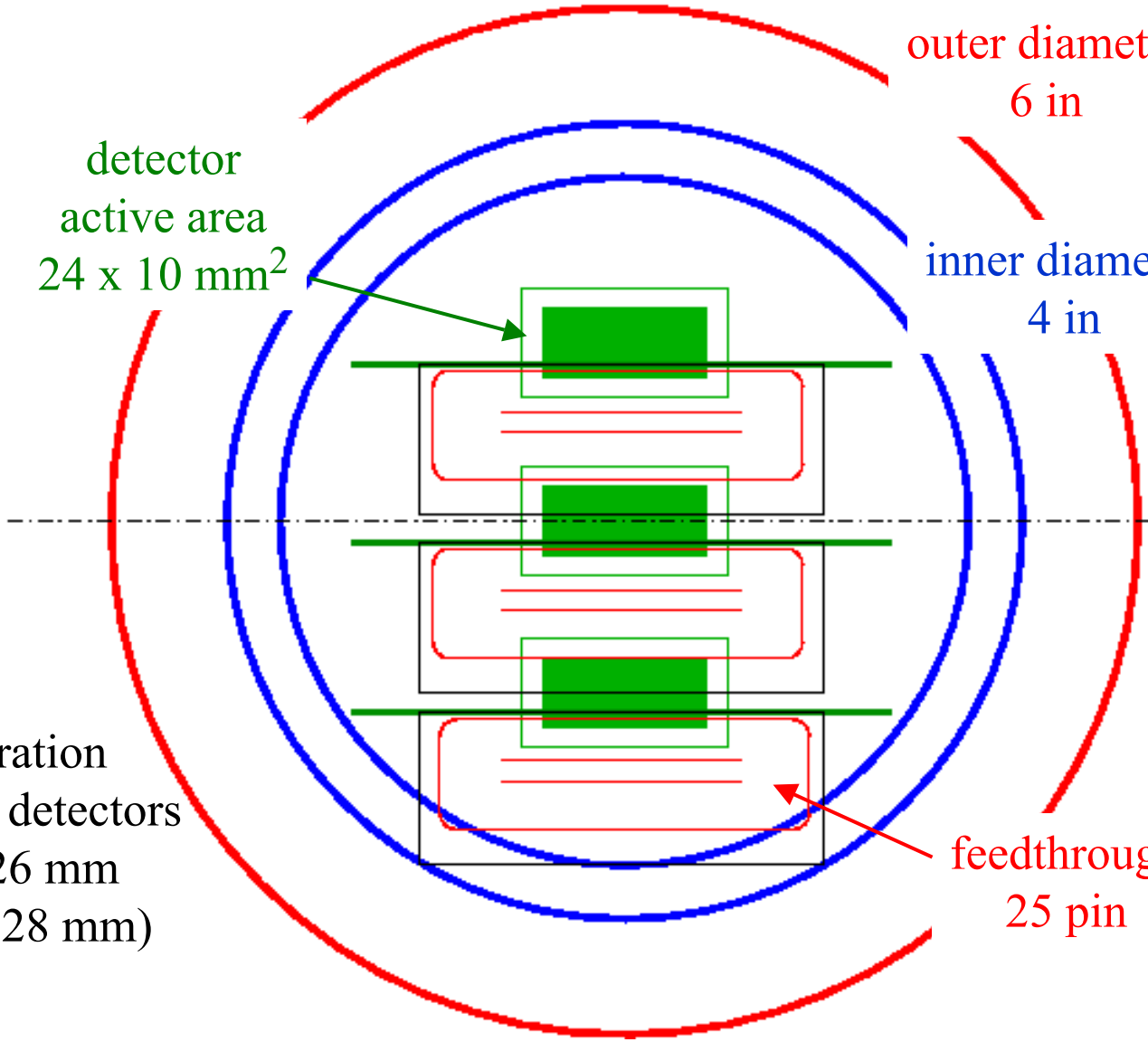
11. hodoscopes for halo measurements

12. friendly online software and data logging

13. carbon target

14. E880 polarimeter
   - forward arms ?

New Flange


outer diameter
6 in
detector
active area
24 x 10 mm2
inner diameter
4 in
shift detectors
5 mm up
separation
between detectors
min 26 mm
(better 28 mm)
feedthrough
25 pin